REMARKS

Claims 1-47 have been canceled. Claims 48-85 are new. The specification has been amended on page 4 at line 21 to correct a typographical error. Each of the new claims is supported in the specification as detailed below:

Claims 48-60:

The 1-D scanning method requires relative motion between the imager and the sample being measured. In virtually all semiconductor processing equipment, there exists a mechanism for transferring wafers between various storage and processing stations. One embodiment uses this pre-existing transfer mechanism for moving the wafer relative to the imager, thus saving the space and expense of a dedicated scanning stage. A CVD version of this embodiment is supported in the second embodiment, beginning on pg. 6. CMP applications are mentioned on page 1. Endpoint detection is mentioned a number of times in the spec, including twice on page 7. At page 8, the specification describes an embodiment in which an imaging system incorporating an embodiment of the invention is fitted within an existing CVD processing system, the Model P5000, from Applied Materials.

Claims 61-69:

In one embodiment, the process of 1-D scanning is used to measure film thickness through a system added to pre-existing semiconductor processing equipment. The specification describes this technique in considerable detail with respect to CVD processes, and it also describes the applicability of 1-D scanning to other process equipment in general. The small footprint, high speed, and simplicity of design means that 1-D scanning technology can be fitted to any of a variety of semiconductor processing equipment. Specific reference is made to CVD processes on pg. 6, and to other semiconductor processing equipment on pg. 7. At page 8, the specification describes an embodiment in which an imaging system incorporating an embodiment of the invention is fitted within an existing CVD processing system, the Model P5000, from Applied Materials.

Claims 70-77:

The 1-D scanning system as described in several places in the specification has a much longer focal length and smaller numerical aperture compared to the microscope-based systems, which are referenced in the Background section. This allows the claimed embodiment of the invention to be used effectively when imaging through viewports, as described in the first example on page 6 of the specification.

Claims 78-85:

In one embodiment, a commercially available "time delay and integration" (TDI) line-scan camera is modified to operate in area scan-mode to provide the aspect ratio and speed required for high-speed imaging of semiconductor wafers. The existing line-scan and area-scan cameras did not fulfill this need. Rather, a TDI line scan camera was modified to work in area-scan mode in order to fulfill this need. In one example, this custom camera is a modified Dalsa CT-E4-2048, as described in the spec on page 8.

In papers accompanying this Request, Applicant has provided authorization to charge Howrey's deposit account for the requisite fees, including the fee for a two-month extension. If there any other fees associated with this Request that are unaccounted for, the Commissioner is authorized to charge the same to Howrey Deposit Account No. **03-3038,** referencing Howrey Dkt. No. **02578.0006.NPUS00.**

Respectfully submitted,

HOWREY SIMON ARNOLD & WHITE LLP

Date: March 30, 2004

Robert C. Laurenson
Reg. No. 34,206

HOWREY SIMON ARNOLD & WHITE, LLP
301 Ravenswood Avenue, Box 34
Menlo Park, CA 94025
Fax No. (650) 463-8400
Telephone No. (949) 759-5269